**6th Grade Checkpoint 4**

**Directions: Answer the following questions. Do the calculations on the test next to the questions.**

1. Which of the following **best** explains how the following pattern is formed?

2 3 5 8 13 …

|  |  |
| --- | --- |
| a. | Multiply by 2 and subtract 1 |
| b. | Multiply each number by the number before it |
| c. | Add 1, add 2, add 3 and so on |
| d. | Add the previous two numbers together to get the new number |

2. Which of the following is **not** a square number?

|  |  |
| --- | --- |
| a. | 49 |
| b. | 24 |
| c. | 81 |
| d. | 25 |

3. Find the perimeter of the rectangle with length 97 inches and width 17 inches.

|  |  |
| --- | --- |
| a. | 228 in. |
| b. | 1,649 in. |
| c. | 211 in. |
| d. | 114 in. |

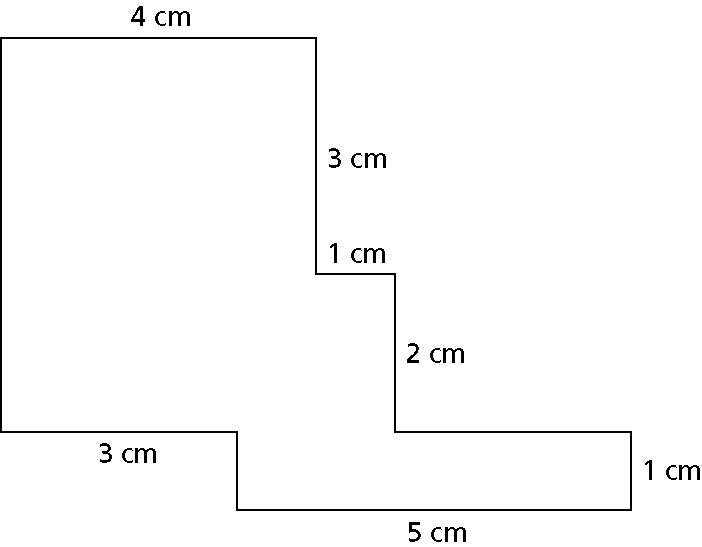
4. Wilson Middle School has ten sixth-grade classes. Two of the classes have both band and chorus. What percent of the sixth-grade classes have both band and chorus?

|  |  |
| --- | --- |
| a. | 2% |
| b. | 20% |
| c. | 40% |
| d. | 1 |

5. At a warehouse, boxes of merchandise are placed on shelves in stacks that are 8 boxes high. If each box is  inches in height, how tall is the stack of boxes?

|  |  |
| --- | --- |
| a. | in. |
| b. | in. |
| c. | in. |
| d. | 14 in. |

6. Use the diagram below to answer the following questions. (All angles in the diagram are right angles.)



**a**. What is the perimeter of the figure?

|  |
| --- |
| Perimeter\_\_\_\_\_\_\_\_\_\_\_\_\_ |

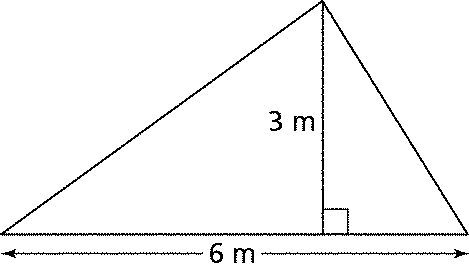
**b**. What is the area of the figure?

|  |
| --- |
| Area\_\_\_\_\_\_\_\_\_\_\_\_\_ |

7. Mahina measured the diameter of a can to be 6.4 in. What was the circumference of the can, to the nearest cm?

|  |  |
| --- | --- |
| a. | 36 cm |
| b. | 39 cm |
| c. | 40 cm |
| d. | 20 cm |

8. What is the area of this triangle?



|  |  |
| --- | --- |
| a. | 36 sq. m |
| b. | 9 sq. m |
| c. | 18 sq. m |
| d. | 6 sq. m |

9. Find the difference of 

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |

d. 4

10. Find the area of the parallelogram.



|  |  |
| --- | --- |
| a. | 1,560 ft2 |
| b. | 1,200 ft2 |
| c. | 520 ft2 |
| d. | 600 ft2 |

11. Write the decimal, .24, as a fraction or mixed number in simplest form.

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |
| d. |  |

12. Draw the next figure in the pattern.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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Make a table that relates the figure number to the number of squares.

How many squares would be in figure 10?

|  |
| --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_ squares |

13. Find the area of the circle to the nearest tenth. Find the area of the circle to the nearest tenth.



|  |  |
| --- | --- |
| a. | 38.5 m2 |
| b. | 44 m2 |
| c. | 153.9 m2 |
| d. | 615.8 m2 |

14. Which number is both odd and composite?

|  |  |
| --- | --- |
| a. | 15 |
| b. | 16 |
| c. | 7 |
| d. | 23 |

15. Find the quotient. 

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. | 72 |
| d. |  |

16. Find the sum. 

|  |  |
| --- | --- |
| a. |  |
| b. |  |
| c. |  |
| d. |  |

**6th Grade Checkpoint 4**

**Answer Section**

**MULTIPLE CHOICE**

1. ANS: D PTS: 1 DIF: L2

REF: Variables and Patterns | Multiple Choice

OBJ: Investigation 1: Variables | Tables | and Coordinate Graphs

NAT: NAEP A4c| NAEP A4d STA: 7CO 2.5| 7CO 2.1| 7CO 3.4

TOP: Problem 1.4 Reading Data from Graphs

KEY: coordinate graph | relationship | table | patterns of change

2. ANS: B PTS: 1

3. ANS: A PTS: 1 DIF: L1

REF: Covering and Surrounding | Skills Practice Investigation 1

OBJ: Investigation 1: Designing Bumper Cars

NAT: NAEP M1h| NAEP M2b| NAEP M2f STA: 6CO 4.5| 6CO 5.1

TOP: Problem 1.2 Finding Area and Perimeter of Rectangles KEY: perimeter | rectangle

4. ANS: B PTS: 1 DIF: L2 REF: Bits and Pieces I Multiple Choice

OBJ: Investigation 3: Moving Between Fractions and Decimals NAT: NAEP N1i| NAEP N1j| NAEP N2b

STA: 6CO 1.2 TOP: Problem 3.3 Decimal Benchmarks KEY: percents | writing percents

5. ANS: B PTS: 1 DIF: L2 REF: Skills Practice Investigation 3

OBJ: Investigation 3: Multiplying With Fractions NAT: NAEP N1b| NAEP N3a| NAEP N5e

STA: 6CO 1.6| 6CO 6.2 TOP: Problem 3.4 Changing Forms

KEY: multiplying mixed numbers | multiplying improper fractions | problem solving | word problem

6. ANS: A PTS: 1

7. ANS: D PTS: 1 DIF: L2

REF: Covering and Surrounding | Multiple Choice

OBJ: Investigation 5: Measuring Irregular Shapes and Circles

NAT: NAEP M1b| NAEP M1C| NAEP M1g STA: 6CO 4.5| 6CO 5.1| 6CO 5.5

TOP: Problem 5.2 Finding Circumference

KEY: center | diameter | radius | circumference | pi

8. ANS: B PTS: 1 DIF: L2

REF: Covering and Surrounding | Multiple Choice OBJ: Investigation 3: Measuring Triangles

NAT: NAEP G5a| NAEP M2a| NAEP M1h STA: 6CO 4.5| 6CO 5.5

TOP: Problem 3.1 Finding Area and Perimeter of Triangles KEY: base | height | area of a triangle

9. ANS: A PTS: 1 DIF: L1 REF: Skills Practice Investigation 2

OBJ: Investigation 2: Adding and Subtracting Fractions NAT: NAEP N3a| NAEP N3f| NAEP N5e

STA: 6CO 1.6| 6CO 6.2| 6CO 6.3

TOP: Problem 2.2 Visiting the Spice Shop: Using Addition and Subtraction | Problem 2.3 Just the Facts

KEY: subtracting mixed numbers | mixed number

10. ANS: B PTS: 1 DIF: L2

REF: Covering and Surrounding | Skills Practice Investigation 1

OBJ: Investigation 1: Designing Bumper Cars

NAT: NAEP M1h| NAEP M2b| NAEP M2f STA: 6CO 4.5| 6CO 5.1| 6CO 5.4

TOP: Problem 1.3 Formulas for Area and Perimeter

KEY: area | base | height | parallelogram | geometry

11. ANS: C PTS: 1 DIF: L1

REF: Bits and Pieces I | Skills Practice Investigation 3

OBJ: Investigation 3: Moving Between Fractions and Decimals NAT: NAEP N1i| NAEP N1j| NAEP N2b

STA: 6CO 1.1| 6CO 1.4 TOP: Problem 3.4 Moving From Fractions to Decimals

KEY: decimals | fraction | mixed numbers | simplest form

12. ANS: D PTS: 1

13. ANS: C PTS: 1 DIF: L1

REF: Covering and Surrounding | Skills Practice Investigation 5

OBJ: Investigation 5: Measuring Irregular Shapes and Circles

NAT: NAEP M1b| NAEP M1C| NAEP M1g STA: 6CO 4.5| 6CO 5.1| 6CO 5.5

TOP: Problem 5.3 Exploring Area and Circumference KEY: area | circle | radius

14. ANS: A PTS: 1

15. ANS: C PTS: 1 DIF: L1 REF: Skills Practice Investigation 4

OBJ: Investigation 4: Dividing With Fractions NAT: NAEP N1b| NAEP N3a| NAEP N5e

STA: 6CO 1.1| 6CO 6.2 TOP: Problem 4.1 Preparing Food

KEY: dividing fractions | reciprocal | fraction | dividing whole numbers

16. ANS: A PTS: 1 DIF: L1 REF: Skills Practice Investigation 2

OBJ: Investigation 2: Adding and Subtracting Fractions NAT: NAEP N3a| NAEP N3f| NAEP N5e

STA: 6CO 1.1| 6CO 1.6| 6CO 6.2| 6CO 6.3

TOP: Problem 2.1 Land Sections: Writing Addition and Subtraction Sentences | Problem 2.3 Just the Facts

KEY: adding fractions | adding fractions with unlike denominators | fractions with unlike denominators | fraction

**SHORT ANSWER**

17. ANS:

**a.** 28 centimeters

**b.** 27 square centimeters

**c.** Possible answers: Subdivide the figure into rectangles to find the area and to help find the perimeter.

PTS: 1 DIF: L2

REF: Covering and Surrounding | Additional Practice Investigation 1

OBJ: Investigation 1: Designing Bumper Cars

NAT: NAEP M1h| NAEP M2b| NAEP M2f STA: 6CO 4.5| 6CO 5.1

TOP: Problem 1.2 Finding Area and Perimeter of Rectangles

KEY: dimension | area | perimeter | area of an irregular figure

18. ANS:

a

PTS: 1